LITTLE STAR LAKE AREA

An Evaluation of Management Concerns for a Nonmotorized Area

LITTLE STAR LAKE AREA: AN EVALUATION OF MANAGEMENT CONCERNS FOR A NONMOTORIZED AREA

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Abstract: The Little Star Lake Area has been closed to most motor vehicle use since 1973, and managed with an emphasis on nonmotorized recreation. The 2412-acre area was originally set aside for intensive wildlife habitat management with nonmotorized hunter access. The area now also contains the 6.5 mile long Ed's Lake Skiing and Hiking Trail, a National Recreation Trail, and is traversed by portions of a district-wide snowmobile trail system. Three small lakes within the area provide panfishing opportunities, and two of the lakes, Little Star and Midget, are accessible by motor vehicle.

This study identifies and analyzes two management concerns that arise from efforts to implement the Nicolet National Forest's proposed Land and Resource Management Plan. One concern is the area's vegetative composition objective in relation to the management objectives for all other resources within the area. Of specific concern is the plan's premise that 422 acres of mixed hardwood timber in visually sensitive parts of the area will be clearcut and converted to aspen. The second concern addresses the type and extent of vehicle access to be provided to recreation visitors to Little Star and Midget Lakes, in light of direction to manage the area primarily for semi-primitive nonmotorized recreation experiences.

User group characteristics are described. Alternatives for each concern are developed and evaluated, using as criteria the natural resource objectives for the area as well as the degree of acceptability of the alternatives to user groups. Conclusions reached are intended to provide direction for implementation of the Land and Resource Management Plan within the study area.

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EXECUTIVE SUMMARY

The Little Star Lake Area on the Laona Ranger District of the Nicolet National Forest has been closed to most motor vehicle use since 1973, and managed with an emphasis on nonmotorized recreation. The 2412-acre area was originally managed for intensive wildlife habitat improvement with nonmotorized hunter access. The area now also contains the 6.5 mile long Ed's Lake Skiing and Hiking Trail, a National Recreation Trail, and is traversed by portions of a district-wide snowmobile trail system. Three small lakes within the area provide panfishing opportunities, and two of the lakes, Little Star and Midget, are accessible by motor vehicle. Overnight camping occurs at several undeveloped sites on Little Star Lake.

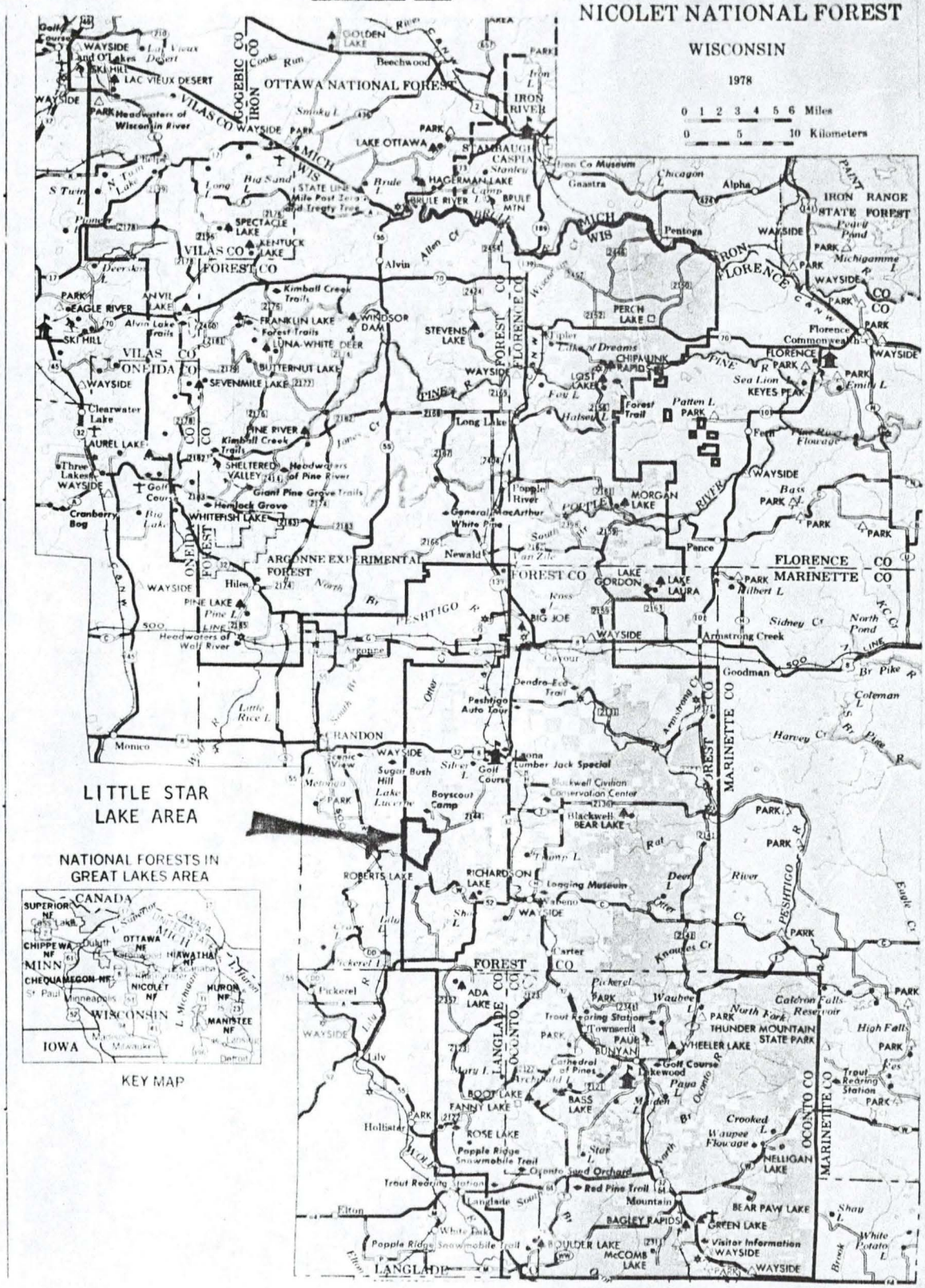
This study has identified and analyzed two management concerns that arise from efforts to implement the Nicolet National Forest's proposed Land and Resource Management Plan. One concern is the premise within the proposed plan that 422 acres of mixed hardwood timber in the vicinity of the Ed's Lake Trail will be clearcut and converted to aspen. The second concern addresses the type and extent of vehicle access to be provided to recreation visitors to Little Star and Midget Lakes, in light of direction to manage the area primarily for semi-primitive nonmotorized recreation experiences.

Three alternatives were evaluated for application to the mixed hardwood timber stands: 1) clearcut and regenerate aspen, 2) manage evenaged mixed hardwoods, and 3) manage unevenaged mixed hardwoods. The alternatives were evaluated using as evaluation criteria the area's

visual quality objectives, wildlife habitat objectives, and timber productivity. Based on this analysis, it is concluded that unevenaged management of the 422 acres of mixed hardwood timber will best meet the overall management objectives of the area. The high value of the visual resource in the vicinity of the Ed's Lake Trail, around Ed's Lake, and along County Highway W makes it necessary to trade off, or at least subordinate, other resource values, particularly wildlife habitat benefits and timber productivity.

Four alternative courses of action for managing public access to Little Star and Midget Lakes were evaluated: 1) block the existing roads at the National Forest boundary and manage for walk-in use of the entire area, 2) block the roads nearer to the lakes and manage for walk-in use of the lakes and campsites, 3) allow continued vehicle access to the lakes but contain use to minimize resource damage, or 4) take no action and continue current management. These alternatives were evaluated using as evaluation criteria their degree of acceptability to users, the resulting land and resource protection, and their economy of implementation. Based on this evaluation, it is concluded that the most feasible course of action is to allow continued vehicle access to the lakes, but to contain use so as to protect the lakeshores and prevent expansion of vehicle use into areas not currently accessible to or suitable for vehicles. Restriction of motor vehicles from access to the lakes would be unacceptable to most users, and could not be practically implemented or enforced. Continuation of current management would result in unacceptable damage and degradation of resources.

VICINITY MAP



CHAPTER I

INTRODUCTION

The Nicolet National Forest is located in northeastern Wisconsin. It contains 656,000 acres of federal land, which is 67 percent of the gross area of 973,000 acres. Although northern Wisconsin is sparsely populated, the Nicolet is within a day's drive of Green Bay, Milwaukee, and Madison, Wisconsin; Chicago, Illinois; and Minneapolis, Minnesota.

The Forest reported 988,100 visitor-days of recreation use in Fiscal Year 1984, of which 731,500 visitor-days (76 percent) were dispersed use. The Nicolet provides opportunities for dispersed recreation that are rare outside of such a large area of public land. Much of the Forest is within a mile of an improved road, and a network of lesser travelways provides vehicle access to a high percentage of the land.

Three congressionally designated wildernesses, totaling 33,258 acres, are located in the northern half of the Nicolet. In addition, five significant areas totaling 26,099 acres have been closed to motorized access. These areas are well distributed, with at least one on each of the four ranger districts. They are managed to provide nonmotorized recreational opportunities, including hiking, cross-country skiing, and hunting. Two of these are located on the Laona Ranger District: the 4967 acre Catwillow Wildlife Management Area, and the 2412 acre Little Star Lake Area.

Description of the Study Area

The Little Star Lake Area is located eight miles southwest of Laona, on the western edge of the Nicolet National Forest. Most of the area has been closed to public motor vehicle use since 1973, and managed with an emphasis on nonmotorized recreation. Figure 1 is a map depicting the major features of the area.

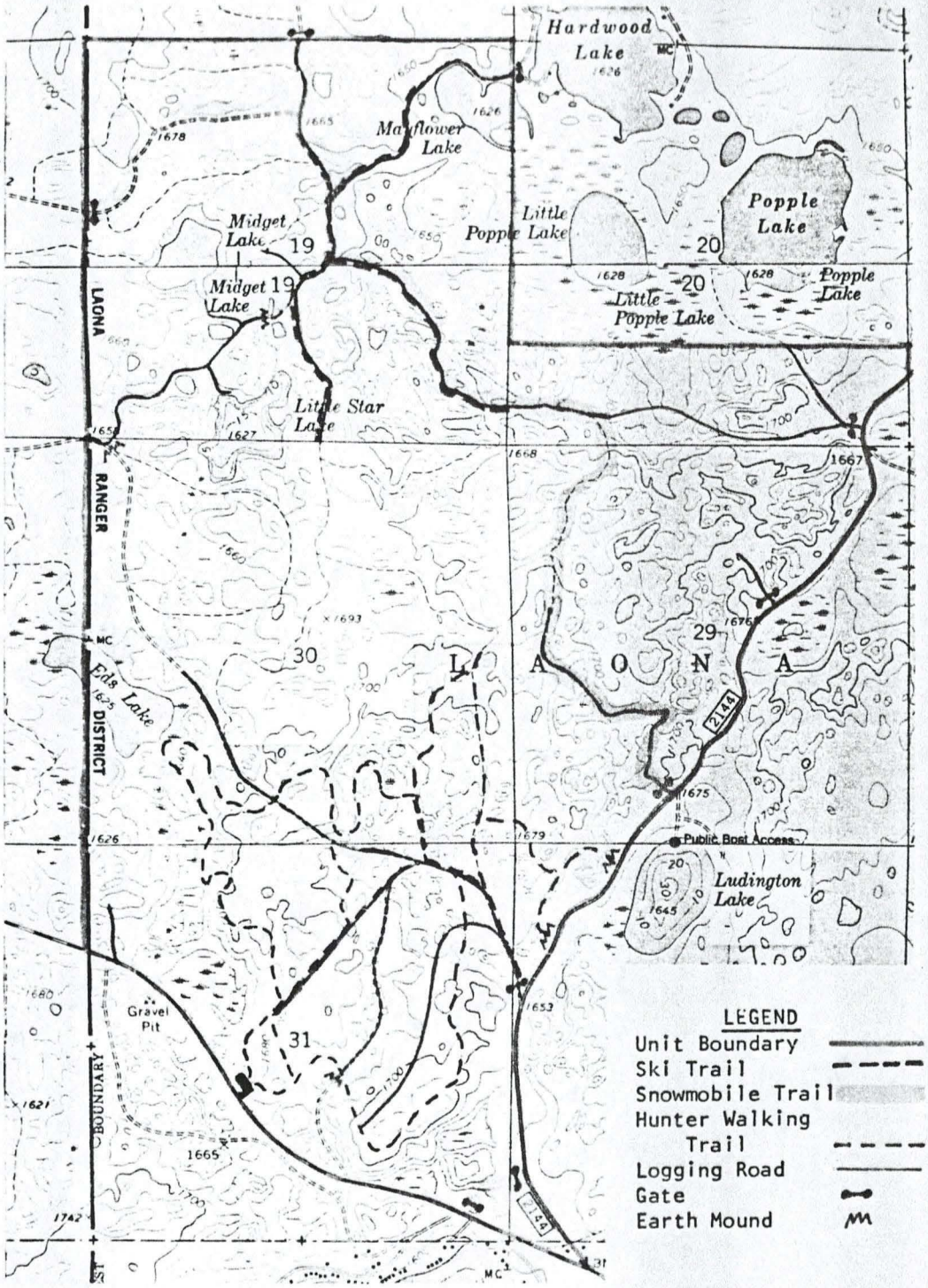
Initially, the purpose of the nonmotorized emphasis was to provide a system of walking trails and game openings for hunters. In 1973, twelve wildlife openings, averaging an acre in size, were constructed in one portion of the area, and seeded to white clover. The openings were linked by a trail system of 2.5 miles that was similarly seeded. The opening acreage has since been doubled, with improved dispersion within the area. The clover areas have been mowed on a regular basis to retain the clover and prevent the succession to less-desired vegetation. Although the system provides primarily grouse hunting opportunity, it also provides opportunity for rifle and archery deer hunting.

The Laona Ranger District maintains 75 miles of hunter walking trails. Forest County also maintains 38 miles of similar trails on county forest lands within ten miles of the Little Star Lake Area (Forest County, 1985). All are generally well accepted by hunters and other recreation visitors.

An agreement was reached with Forest County in 1973 to authorize an extensive snowmobile trail system on the district. Segments of the trail cross the Little Star Lake Area. This use has resulted in no serious conflict with the nonmotorized recreation emphasis.

The increasing popularity of cross-country skiing brought on the planning, design, and construction of the Ed's Lake Skiing and Hiking

Figure 1. Travelway Map



Trail in 1979. The trailhead and parking lot for the five-mile-long trail were constructed off Forest County Highway W on the southern edge of the closed area. The trail system traverses parts of the southern one-third of the Little Star Lake Area. Part of the snowmobile trail was relocated further north in the area to prevent conflict between the two wintertime uses. The Ed's Lake Trail has since been expanded to 6.5 miles, and has been designated a National Recreation Trail. The trail receives about 400 visitor-days of skiing use each year, and a minor amount of hiking use.

The study area contains a wide variety of vegetative types, representing almost every cover type found on the district. However, lowland timber stands are few and there are no streams, as the area is a hilly highland. Topography within the area is generally more hilly and steep than what is typical of the district. This characteristic enhances, to some extent, the visual quality and recreational interest of the area.

The management unit contains four small lakes, three of which provide fishable populations of panfish. Two of the three, Little Star and Midget Lakes, are accessible to motor vehicles by way of an unimproved road system. Access has not been restricted by the Forest Service due to the popularity of the two lakes for fishing, and to the long-established history of vehicular access. These lakes form one of only a few remaining groups of small, undeveloped lakes within the Nicolet National Forest.

Both lakes have received fisheries improvements. Midget Lake (14 acres) was chemically treated in 1965, and stocked with largemouth bass in 1966. It now supports a self-sustaining population of largemouth

bass and bluegills. Little Star Lake (20 acres) was stocked with largemouth bass in 1969, and ten fish shelter cribs were installed in 1980. The lake is now maintaining a healthy population of largemouth bass, bluegills, and yellow perch.

The Little Star Lake Area is bounded on the north by industrial forest land owned by Wisconsin Timber Associates of Wausau, Wisconsin, and on the northeast by a scout camp owned by the Milwaukee County Council, Boy Scouts of America. Both landowners restrict public vehicular access to their lands, which aids the vehicle restriction efforts of the Forest Service. A 240-acre inholding is owned by Wisconsin Timber Associates. Their infrequent access needs have been accommodated by short-term authorization to use the road that connects to their lands to the north. The owners have declined to include the tract in past land exchange proposals with the Forest Service. The Little Star Lake Area is bounded on the east and south by public roads, from which vehicular access into the area is effectively controlled by earth mounds and gates on existing roads. The west boundary of the area is the National Forest boundary. The adjoining lands are privately owned, and a low-standard road extends across these lands to the west edge of the area, providing vehicular access to Little Star and Midget Lakes.

Forest Plan Direction

The Nicolet National Forest's proposed Land and Resource Management Plan has grouped four river corridors and the five non-motorized areas, including the Little Star Lake Area, into a management area designated MA 6.2. Management emphasis for MA 6.2 includes:

1) A diverse forest with a variety of tree species and ages

2) Roads closed to vehicle access

3) Wildlife, fisheries, and recreation emphasis

4) A primarily semi-primitive nonmotorized recreation experience

The proposed plan includes prescriptions for the Forest that describe the desired future condition of the land and resources to be attained, or at least initiated, through application of prescribed management practices. It indicates those management practices that are to be applied during the first decade of the the plan (1986-1995), and includes the standards and guidelines within which they are to be accomplished. Although the proposed Land and Resource Management Plan is subject to revision in the development of the final plan, substantial change in direction for MA 6.2 is not anticipated.

There is an apparent conflict between the nonmotorized recreation management emphasis for the study area and the existing motorized uses. However, neither the Regional Guide nor the Nicolet's proposed plan prohibit all motor vehicle use within these areas by the public. The Regional Guide for Management Goal 6 states that roads may be closed to public use, but does not require all roads to be closed. The prescription for MA 6.2 in the proposed plan states that only the existing open roads may remain open; all others are to be closed.

Objective of the Study

Management of the Little Star Lake Area during the first decade will require site-specific application of the management practices prescribed for MA 6.2. A detailed description of all the first decade management

practices for the Little Star Lake Area is beyond the feasible scope of this study project. Instead, this study identifies and analyzes two significant management concerns that arise from efforts to implement Forest Plan direction. One concern results from direction to convert a sizeable portion of the mixed hardwood timber type to aspen. The other addresses the type and extent of vehicle access to be provided to Little Star and Midget Lakes, in light of direction to manage the area primarily for nonmotorized recreation experiences. Conclusions reached will guide projects to be planned, scheduled, and designed through the Nicolet's integrated resource management process for implementation of its Land and Resource Management Plan.

Limitations

The time allotted for completion of this project greatly limits the gathering of on-site information, especially from recreation users. The study relies on the first-hand knowledge of ranger district personnel concerning recreation visitors, supplemented by personal contacts with several local people who are known to use the area.

CHAPTER II

SOCIAL BACKGROUND

The vision statement of the Forest Service has as its theme the concept of caring for the land and serving people. The agency is nationally recognized for its leadership in land and resource management. It is an agency of resource professionals. However, in serving people it is equally important to know and understand the public being served, including the nature of the recreation experiences they seek, and the values they place on those experiences.

An objective of Forest Service recreation management is to make opportunities for forest recreation available to all segments of society. Management should enhance the quality of the recreation experience, doing so with a minimum of apparent regulation (FSM 2302).

Historic Perspective

The attitude of the American people toward the use of public land is the result of our history and culture. Early Forest Service policy was shaped by the philosophy that the public lands were available to all for occupation and use as the people saw fit (Costley, 1985). The Forest Reserve Act of 1891, which established the Forest Reserves in the Department of Interior, was the first attempt by the U.S. Government to restrict the concept of open public lands, or right of entry.

The Forest Reserve Manual of 1902 recognized the right of the public to travel on the Forest Reserves for pleasure and recreation, and stipulated that no management decision would stand in the public's way. Early Forest Service management placed almost no emphasis on recreation. The first mention of recreation in National Forest legislation was in a 1915 act that authorized term special use permits for summer homes and other structures for recreational purposes.

Over the years, people came to the forests in ever-greater numbers. The Forest Service reacted by designating recreation sites rather than by designing them. The agency had not planned on being involved in recreation management to any great extent, and its original approach was merely to mitigate the damages caused by people (Costley, 1985).

Current Perspective

Even today, resource managers are often disturbed by the recreating public. Recreational users of the forest are sometimes seen as problems, as obstacles to natural resource management. Most managers would benefit from a better understanding of what it is people seek in outdoor recreation.

In simplest terms, people seek recreational experiences in order to fulfill certain needs in their lives, needs not fulfilled in the normal routine of daily life. The real basis of outdoor recreation management lies in understanding people and the nature of the needs they bring to the forest (Schreyer, 1985).

Origins of Forest Users

Based on analysis of 1980 and 1981 campground fee envelopes, 93 percent of campground users on the Nicolet reside in the east half of Wisconsin and the northeast corner of Illinois; 85 percent reside in Wisconsin (Figure 2). Of campers on the Laona Ranger District, 88 percent are from Wisconsin, and 61 percent are Wisconsinites from other than the Milwaukee metropolitan area. Almost 50 percent are from the Fox River Valley, centered around the cities of Green Bay, Appleton, and Oshkosh (Nicolet National Forest, 1982). Users of the Nicolet for other recreation purposes can be assumed to form a similar residency pattern.

User Group Characteristics

It is difficult, and potentially unfair, to stereotype a portion of the population by applying to it a set of descriptive characteristics. However, if the recreation users of the Nicolet were divided into two groups, one group representing the majority of the people could be said to generally possess the following attributes. They are outdoor-oriented, either making their livings on farms and forests, or focusing their recreational attention on outdoor activities. They are interested in hunting and fishing, and they are frequent visitors to the Nicolet. They support multiple-use forest management, and believe that timber management is beneficial to wildlife habitat. They are not opposed to clearcutting when applied appropriately, but they appreciate the natural beauty of the northwoods. Although many come from the cities and farms of eastern Wisconsin, they are attuned to the need to harvest forest products. They are aware of the economic importance of the paper mills in the Fox and Wisconsin River valleys. They are

Figure 2.
ORIGINATION OF VISITORS

willing to walk a moderate distance in pursuit of hunting and fishing opportunities, but do not walk for pleasure. They enjoy woods travel in four-wheel-drive and all-terrain vehicles. Their winter interests include ice fishing and snowmobiling.

The early philosophy of open public lands, or right of entry, is still in existence. Many of these people question the obliteration or gating of roads, and the closure of areas to motor vehicles. However, most understand that such management can improve the quality of their recreation experience by reducing their contacts with motorized uses while they are participating in nonmotorized uses. They also understand that management for nonmotorized use will help to retain a measure of naturalness and isolation in their forest.

It is even more difficult and unfair to characterize the remainder of the recreation population, just as it is difficult to measure the size of this segment. In general terms, this is the significantly large portion of the population whose attitudes and values cause them to be more appreciative of the natural forest condition. These people are less supportive of timber harvests and more opposed to clearcutting than those described earlier. They may or may not be interested in hunting or fishing. If they are, they are willing to walk some distance to enjoy their sport. They favor nonmotorized travel in the woods, and would favor less use of four-wheel-drive and all-terrain vehicles by others. They would like to see fewer improved roads, and more gating or obliteration of existing roads. Their winter interests lean toward snowshoeing and cross-country skiing.

These are two generalized descriptions, and all people do not fit neatly into one or the other of these two groups. However, the

descriptions can be helpful in understanding the kinds of recreation opportunities being sought by visitors to the Nicolet, especially since there is obviously a degree of conflict between the interests and desires of these two groups.

People who group together through common interests behave in somewhat uniform and predictable patterns. Within social groups, people act out assumed roles according to norms of behavior, which they learn and adapt to as part of the culture in which they participate (Schreyer, 1985). It is important for resource managers to understand these norms and customs, and their meanings and values to the various groups of recreation visitors.

Using this knowledge of the characteristics of the Nicolet's recreating public, this study addresses the concerns involved in implementing the proposed Land and Resource Management Plan direction for the Little Star Lake Area.

CHAPTER III

IDENTIFICATION OF MANAGEMENT CONCERNS

Gifford Pinchot once said, "There are many great interests on the National Forests which sometimes conflict a little. They must all be made to fit into one another so that the machine runs smoothly as a whole." In this chapter, some of those interests and their conflicts are identified.

Vegetative Composition

The long-term vegetative composition objectives for the MA 6.2 areas on the Laona District, shown in Appendix B-1, indicate that only minor changes will be required in order to attain the desired future condition. The greatest change required is the conversion of 8 percent (733 acres) of the management area from evenaged mixed hardwoods to unevenaged mixed hardwoods. Other significant conversions called for are the addition of 2 percent (183 acres) of oak type, a reduction of 2 percent of aspen type, and a 1 percent (92 acres) increase in upland openings. These objectives apply to the long-term steady state condition on the total of 9159 acres in MA 6.2 on the Laona District, providing quite a bit of latitude for current prescriptions applied to the 2412 acres within the Little Star Lake Area.

The Nicolet's timber stand data base as of April, 1982, was used in the FORPLAN analysis. Since that date, cutting has taken place in some of the stands for which silvicultural prescriptions were already written, and prescriptions have been written for most of the remaining stands within the study area. Most prescriptions were made prior to issuance of the draft Land and Resource Management Plan and consequently were not guided by its direction.

The current prescriptions are summarized in Table 1 by vegetative type, type of cut, and management objective. They are listed with the FORPLAN solutions for the same timber types within the study area.

The harvest constraints applied to the FORPLAN linear program resulted in its delaying the harvest of many timber stands until the second decade (1996-2005), even though they are ready for harvest in the first decade (1986-1995). Because of this, the harvest acreage prescribed by the ranger district for the Little Star Lake Area exceeds the draft plan's harvest acreage for the first decade. The prescriptions have, in effect, moved into acreage scheduled by the draft plan for harvest in the second decade.

The concern addressed in this paper is the area's vegetative composition in relation to the management objectives for all resources within the study area. The adverse effects of exceeding the harvest levels of the proposed land management plan are not relevant to this study. They may in fact be remedied by delaying some of the prescribed activities until the second decade, or by adjusting vegetative prescriptions either elsewhere in MA 6.2 or elsewhere on the district.

Table 1 indicates that prescriptions coincide well for the jack pine type and the red pine, white pine, white spruce type for the first

Table 1. Timber Harvest Summary: Stand Prescriptions and FORPLAN Solutions

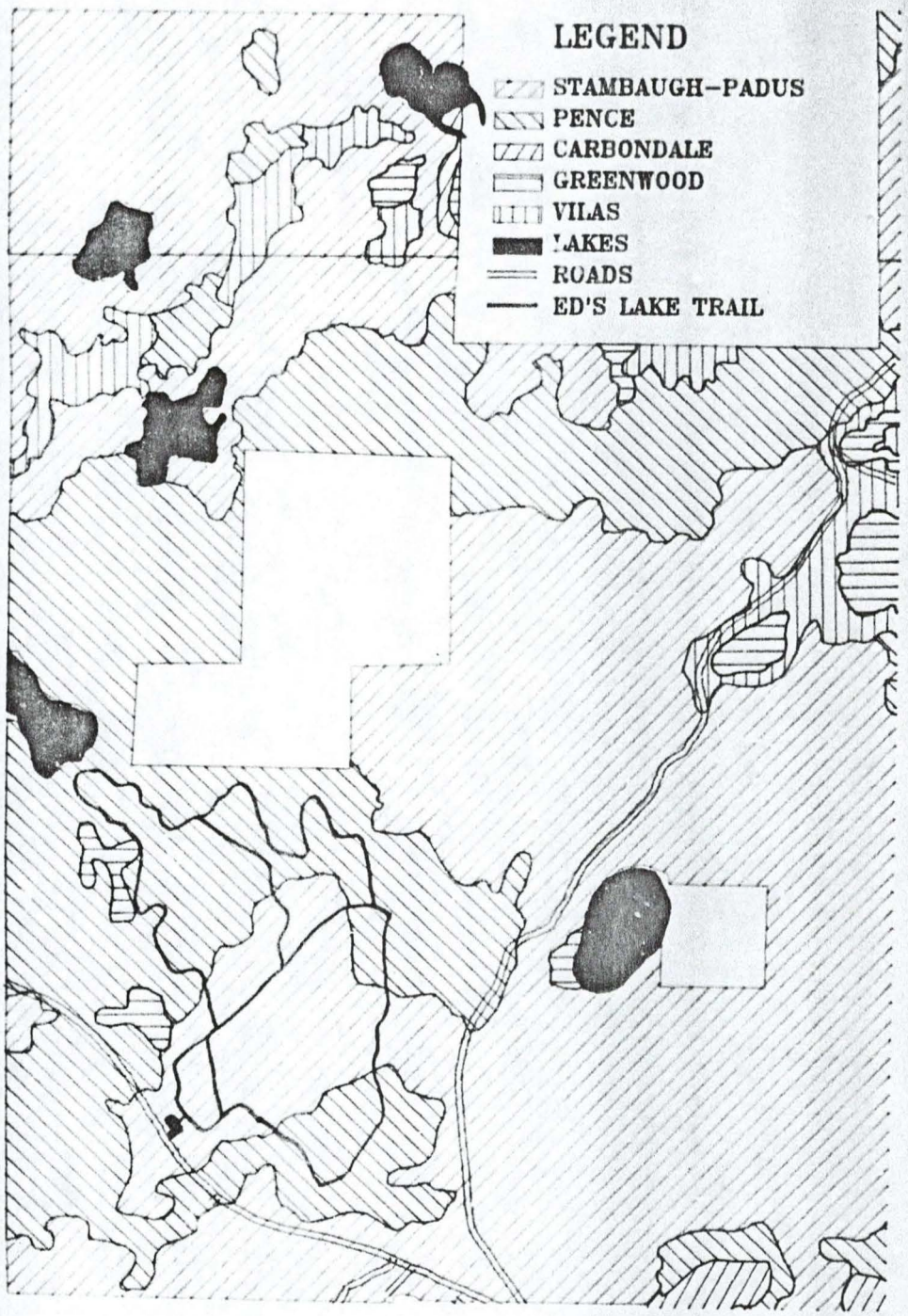
Vegetation Type	Type of Cut	Management Objective	Acres of Timber Harvest Practice			
			Current Silvicultural Prescriptions	FORPLAN Solutions		
				1986-1995	1996-2005	Total 1986-2005
Jack Pine	Final Harvest	Jack Pine	39	39	0	39
Balsam Fir	Final Harvest	Balsam Fir	7	0	27	27
Red Pine,	Inter.Thin	Pine-Spruce	312	312	0	312
White Pine,	Clearcut	Aspen		9	0	9
White Spruce	-	Old Growth	9			
Aspen	Clearcut	Aspen	100	0	198	198
Mixed	Inter.Thin	Even-age	56	0	95	95
Hardwoods	Selection	Uneven-age	893	0	882	882
	Clearcut	Aspen	0	0	422	422
	-	Old Growth	106			

decade. Prescriptions for the balsam fir and aspen types fall well within the plan's harvest direction for the second decade. However, the FORPLAN solution for conversion of 422 acres of mixed hardwood to aspen is a concern. Most of this timber is in two large stands in the area of the Ed's Lake Skiing and Hiking Trail, as well as around Ed's Lake and along County Highway W. Aspen management poses problems for trail use and visual management in these areas. One reason the conversion prescription was selected by FORPLAN is that these stands are located primarily on the Pence ecological land type (ELT), which is a relatively low productivity site for mixed hardwoods. Figure 3 illustrates the relationship of the Pence ELT to these visually sensitive areas.

Of the 115 acres prescribed for old growth, 72 acres are located in the vicinity of the Ed's Lake Trail, including the trailhead parking lot and three-fourths of a mile of hilly roadside timber along the north side of County Highway W; 63 acres are within the mixed hardwood stands in question. Stands designated old growth are not to be thinned or harvested until well beyond normal rotation age. The primary benefits to be derived from retaining old growth timber are wildlife habitat diversity, visual quality, and benchmark forest conditions. Five percent of all upland managed timber types are to be managed for old growth. The 115 designated acres represent 4.8 percent of the Little Star Lake Area.

One of the management concerns, then, to be addressed in this paper is the management objective for 422 acres of mixed hardwood timber.

LITTLE STAR LAKE AREA ELT MAP



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Vehicle Use

The Nicolet National Forest's MA 6.2 lands have been classified Semi-Primitive Nonmotorized on the Recreation Opportunity Spectrum (ROS), based on the classification criteria of the ROS Users Guide (Forest Service, 1982). However, the Little Star Lake Area does not fit neatly into any one ROS class. Based on the remoteness criteria, parts of the area fall into either the Roaded Natural or Semi-Primitive Motorized classes because of their proximity to better than primitive roads. The area falls slightly short of the 2500 acre size requirement for Semi-Primitive. It best meets the setting and experience characterizations for the Roaded Natural class. However, the nonmotorized emphasis intended for most of the Forest's MA 6.2 lands has influenced the classification toward Semi-Primitive Nonmotorized.

Despite its Semi-Primitive Nonmotorized classification, the Little Star Lake Area is well roaded. However, recreational motor vehicle use is prohibited on most roads and trails. Existing recreational trail uses, both motorized and nonmotorized, are intended to continue as long as they are compatible with each other and with all other resource uses. Portions of these trails overlay the road system, requiring seasonal restrictions on timber sale activities. The gates are opened on the snowmobile trails when snow depth is adequate for snowmobile use and deep enough to discourage use by wheeled vehicles.

Management of the area for nonmotorized use is fairly well accepted by the public. However, there is a minor amount of unauthorized vehicular use. Access is usually gained by driving around gates or over earth mounds with trail bikes or small all-terrain vehicles. It is important that the integrity of the area's closure be maintained, so

that the majority of the public that respects the closure can enjoy the area free from the annoyance of vehicular use by a few. All resource management planning for the area must take into account the permeability of the area to vehicle use. The location of timber harvest units and temporary roads can affect the ability of the Forest Service to effectively close the area to motorized access.

An unimproved road system provides vehicle access to about 80 acres on the west edge of the area, which is about 3% of the management unit. This allows the public to drive to the southeast corner of Midget Lake and to the northwest corner of Little Star Lake, as well as to a parking area for the hunter walking trail system in the northern part of the area. Improvement of the local road system on private land to the west has contributed to an increase in fishing and camping use on the lakes. Use of four-wheel-drive and all-terrain vehicles has expanded the use areas on the shorelines, causing the loss of some ground vegetation and initiating localized soil erosion. Continuation of this trend will result in serious resource damage and a decline in the quality of recreation experience offered by the area.

This is the second management concern to be addressed in this paper: the type and extent of vehicle access to be provided to recreation visitors to Little Star and Midget Lakes.

CHAPTER IV

DEVELOPMENT AND EVALUATION OF ALTERNATIVES

Management direction for the Little Star Lake Area is dependent upon the resolution of two significant concerns:

A. The management objective for 422 acres of mixed hardwood timber

B. Vehicle access to Little Star and Midget Lakes

CONCERN A

This section addresses the management objective to be applied to 422 acres of mixed hardwood timber in two stands in the vicinity of the Ed's Lake Skiing and Hiking Trail, around Ed's Lake, and along County Highway W. The alternatives considered are to:

1. Clearcut and regenerate aspen (the FORPLAN solution)
2. Manage evenaged mixed hardwoods
3. Manage unevenaged mixed hardwoods, including 63 acres of old growth

Forest Service land management planning regulations (36 CFR 219) state that management prescriptions for vegetative manipulation shall be best suited to the multiple-use goals established for the area, providing the desired effects on wildlife habitat, recreation uses, aesthetic values, regeneration of desired tree species, and other

resource values (Federal Register, 1982). Three evaluation criteria were derived from these requirements:

1. Visual quality objectives
2. Wildlife habitat objectives
3. Timber productivity

Consideration was given to using "recreation opportunity objectives" as a fourth criterion. However, the effects of the three alternatives on recreation opportunities are largely the result of their effects on visual quality, with few other differences. All three alternatives would subject parts of the area to the disturbance of timber harvest activities at approximately ten year intervals, each resulting in similar effects upon recreation opportunities. Harvest under each alternative would need to be restricted from the winter season to avoid conflict with cross-country skiing, which is the major trail use. For these reasons, the recreation opportunity criterion was eliminated.

The vegetative composition objective for these stands was identified as a concern due to the effects that the resultant timber management practices would have upon the area's visual quality and recreation opportunities. Consequently, the visual quality criterion was considered to be the most important of the three, followed by wildlife habitat and then timber productivity.

Visual Quality Objectives

The visual quality objective for the area surrounding the Ed's Lake Trail has been determined to be Retention. This objective provides for management activities that are not visually evident; activities may only repeat form, line, color, and texture which are frequently found in

the characteristic landscape (Forest Service, 1974). The Retention objective allows the smallest degree of disturbance resulting from vegetative management activities.

The draft plan contains standards and guidelines for temporary openings resulting from the harvest of evenaged timber stands. In Retention zones, the size of temporary openings visible from any one point on a pedestrian trail or a lake is limited to five acres, and from a highway ten acres, even though the actual opening size may be up to 20 acres within MA 6.2. It is obvious that the entire 422 acres cannot be clearcut and converted to aspen during one decade and still meet these requirements.

It is possible to design small clearcuts so as to limit the area seen from the trail or lake to five acres each, but probably only for openings up to ten acres in size. Likewise, openings along the highway designed to appear no larger than ten acres each would be limited to about 15 acres in total size. Openings not visible from these sensitive features are allowed up to 20 acres in size. Therefore the average clearcut size may be about 15 acres, and the 422 acres of timber would then have to be divided into about 28 separate stands. For aspen on a 40-year rotation, this would result in about seven stands at one time in the regeneration stage that constitutes a temporary opening. Mixed hardwoods on a 100-year rotation would have two to three stands at one time in that condition. Management of unevenaged mixed hardwoods would result in no temporary openings.

Unevenaged hardwood management would best meet the criteria for Retention, as only selected individual trees would be harvested. A fully-stocked residual stand composed of trees of all sizes would remain

in place between harvest entries. In the long term, management of the 63 acres designated for old growth would result in a longer time period between harvest entries. The result would be less frequent disturbance, larger trees, and a more naturally appearing forest.

Evenaged hardwood management and aspen management both result in overstory removal and significant disruption of form, line, color, and texture. The characteristic landscape within the study area includes permanent wildlife openings, and will include temporary openings resulting from the regeneration of existing stands of aspen, paper birch, and pine. Therefore, the vegetation in the vicinity is already fairly diverse. However, management of 422 additional acres for evenaged hardwoods or aspen would significantly increase the degree and frequency of disruptions during regeneration harvests. Aspen management would result in the greatest increase in disturbance due to its short rotation age. The aspen alternative would also be the most difficult type of management under which to meet the standards and guidelines for size of opening visible from the trail, because it results in the greatest number of openings at one time.

Wildlife Habitat Objectives

Of all the vegetative types in the Lake States, the aspen type has the highest overall value to wildlife. It is especially important to the Nicolet's primary game species: white-tailed deer and ruffed grouse. Aspen is a short-lived species which produces high within-stand diversity. Since it quickly goes through so many structural changes during its relatively short life span -- grass/forb, shrub/seedling, sapling/pole, and mature -- it provides habitats for a majority of the

forest wildlife species at some point during its life cycle of 40 to 70 years (Forest Service, 1984).

The general value of the mixed hardwood type to game species is lower than that of the aspen type. However, if managed evenaged in relatively small stands so as to provide a diversity of age classes within a locality, its value to wildlife is greater than if managed unevenaged.

Although aspen provides valuable habitat, most wildlife species benefit from vegetative diversity, which is already present in the study area due to the variety of existing types and age classes. In addition, many wildlife species benefit from the vertical vegetative structure provided by the various layers within an unevenaged stand.

The alternative to manage for unevenaged mixed hardwoods includes the designation of 63 acres of the existing timber for old growth management. This designation could have been included in either of the remaining alternatives as well, in which case the habitat benefits of snag and den trees, undisturbed forest conditions, and other old growth characteristics could be credited to any of the three alternatives. However, the old growth designation is included only with the unevenaged hardwood alternative because that is the stand prescription that has already been proposed by the district silviculturist.

Timber Productivity

The clearcut harvest of the existing mixed hardwood poletimber would produce about 25 cords per acre, or a total of 10,550 cords from the 422-acre stand. Under an unevenaged objective, a selection cut would produce about five cords per acre on the 359 acres not designated old

growth, or about 1795 cords. Evenaged management would produce a similar volume per acre in the first thinning, and a higher total volume if parts of the stand were to receive a shelterwood regeneration cut during this harvest entry. The total volume would depend upon the number of acres set aside for old growth.

As an economic model, FORPLAN selected the clearcut and conversion prescription because it produced the greatest Present Net Value. The decision was aided by including the future market value of the wildlife benefits that would result from the aspen type.

Viewed over a longer or unlimited time period, hardwood management would produce a higher future timber value. A sample of the Forest's timber stand data, located in Appendix A-5, indicates that, on the Pence ELT, mixed hardwoods will produce 47.6 cubic feet per acre per year, compared to 43.1 cubic feet for aspen. Although pulpwood stumpage prices for aspen and hardwoods are similar, stumpage prices for hardwood sawlogs average around $80 per thousand board feet compared to under $20 per thousand for aspen sawlogs. Therefore, it can be concluded that mixed hardwoods will produce slightly more volume and a much higher future undiscounted product value than aspen, even on the Pence ELT.

Unevenaged hardwood management usually produces greater merchantable sawtimber height and higher quality sawlog material than evenaged management (Godman, 1985). However, some studies indicate that evenaged management produces slightly more total timber volume and monetary return than unevenaged management (Smith and DeBald, 1978).

In summary, aspen management would generate the greatest timber revenue in the short term, but hardwood management would do so in the

long term. Evenaged hardwood management may result in a slight monetary advantage over unevenaged management over either time period.

Summary

Of the three evaluation criteria, compliance with the visual quality objectives for the area of concern ranks in importance above the other two; compliance with wildlife habitat objectives ranks above timber productivity. On a scale of 1 to 10, visual quality was assigned a weight of 10, wildlife habitat a weight of 7, and timber productivity a weight of 4. Using the decision-making process of choosing by advantages, the alternatives were ranked using the weighted evaluation criteria:

Evaluation Criteria	Alt. 1 Convert to Aspen	Alt. 2 Evenaged Hardwoods	Alt. 3 Unevenaged Hardwoods
Visual Quality			Meets Retention (10)
Wildlife Habitat	Provides the best (7)		
Timber Productivity		Highest (4)	

Although quite simple, this ranking clearly illustrates the essential conclusion of this evaluation: Alternative 3 best meets the visual quality objectives applicable to the stands being evaluated.

CONCERN B

This section addresses the type and extent of vehicle access to be provided to recreation visitors to Little Star and Midget Lakes. The alternatives are:

1. Block the road at the National Forest boundary and manage for walk-in use of the entire area.
2. Block the roads near the lakes and manage for walk-in use of the lakes and campsites.
3. Allow continued vehicle access to the lakes but contain use to minimize resource damage.
4. Take no action and continue current management.

Forest Service land management planning regulations (36 CFR 219) require consideration of access and dispersal problems of hunting, fishing, and other visitor uses. They state that all management prescriptions are to conserve soil and water resources, and protect lakes and shorelines. They also require identification of the recreation preferences of user groups, consideration of recreation opportunities responsive to current and anticipated user demand, and consideration of the need to regulate use (Federal Register, 1982).

The four alternatives were evaluated according to their consistency with the following evaluation criteria:

1. Acceptability to users
2. Land and resource protection
3. Economy of implementation

Alternative 1. Block the road at the National Forest boundary and manage for walk-in use of the entire area.

The point at which the unimproved road crosses the National Forest boundary is within a cut section of an old railroad grade. This presents a favorable opportunity to erect and enforce a road closure.

This course of action would be consistent with the nonmotorized direction for MA 6.2 areas. The standards and guidelines state that "parking accommodations and signing will be designed to accommodate the area's capacity and will be located on the perimeter of the area." This could probably be done in cooperation with the adjoining landowner.

Walk-in recreation would provide the highest degree of resource protection. Roads, shoreline campsites, and boat launch sites would no longer be subject to vehicular traffic, and would revegetate to a satisfactory degree. Fishing pressure on the lakes would diminish.

The segment of the user population that favors walk-in access would benefit from this course of action, and would probably find it acceptable. However, this alternative would not provide the type of recreation experience being sought by the majority of recreation users of the Nicolet. Few people would walk the half mile to fish and camp at Little Star Lake, or the three-quarters of a mile to fish Midget Lake. Most of the fishing is done using small boats or canoes, and only the hardiest anglers would carry their craft that distance. Few hunters would walk the additional distance to the hunter walking trails and wildlife openings. Current users would greatly resist the restriction of vehicle travel to the lakes. Many have used the area for years, traveling by way of roads since closed to them when the first hunter walking trails were established.

The initial cost of implementing this alternative would be relatively low. However, maintenance and enforcement of the closure would be difficult and expensive. Vegetation along the Forest boundary is relatively sparse, making the area highly permeable to incursions by four-wheel-drive and off-road vehicles. Comments from some individuals familiar with users of the area hint that arson fires would occur in the area if vehicle access were ever restricted. Although possibly reflecting merely idle threats, such comments indicate the level of desire for vehicle access to the lakes among users of the area. The level of surveillance required to adequately enforce the road closure is well beyond what the district can afford to provide.

Alternative C. Block the roads near the lakes and manage for walk-in use of the lakes and campsites.

This alternative is a modification of the previous one. The intent would be to allow users of the lakes, campsites, and trails to drive about a half mile closer to their destinations. Walk-in distance to each would be a quarter mile or less. The degree of land and resource protection attained would be high. This degree of access would still be within the prescription for MA 6.2, which provides that existing open roads may remain open to public use.

This course of action would, in theory, come closer to satisfying the desires of people from both user groups. The drawback to this alternative is the infeasibility of effectively blocking the roads at a point or points within the area. The unimproved road system traverses the large natural openings between the Forest boundary and the lakes. There is no location at which to place a gate or other structure so as

to restrict access. Construction of an effective barrier, even using rocks and other natural materials, would be unreasonably expensive and unsightly. Anything less than such a barrier would not be effective in restricting access to many of the current users of the area.

Alternative 3. Allow continued vehicle access to the lakes but contain use so as to minimize resource damage.

Management under this alternative would allow vehicle access to Little Star Lake for camping and fishing, but would prevent expansion of vehicle use into areas not currently accessible to or suitable for vehicles. This would be accomplished by placing rocks and other natural materials in locations so as to prevent or discourage vehicular travel. Vehicle access to Midget Lake would be similarly restricted at the top of the slope to prevent users from backing vehicles and boat trailers down the slope to the shoreline. An adequate parking area would be provided. Access to the existing parking area for the hunter walking trail system would be unchanged.

Like the previous alternative, this alternative would be within the MA 6.2 prescription for vehicular access. It would provide a moderate degree of land and resource protection. The cost of implementation would likewise be moderate, probably in the range of $1000 to $3000, depending on the design and extent of barriers needed to control use.

This alternative comes close to meeting the perceived user demand for the area. It is consistent with the kind of recreation opportunity being sought by the majority of recreation visitors to the Nicolet. It is a course of action that appears acceptable to people within both user groups.

Alternative 4. Take no action and continue current management.

Continuation of current management would eventually result in serious and unacceptable damage to portions of the shorelines of both lakes, and the localized loss of timber and ground vegetation. Degradation of the lakes and shorelines would reduce the quality of the recreation opportunities offered by the area. The area would soon fail to provide the type of recreation experience sought by most recreation visitors to the Nicolet. The condition of the resources would become a management concern, and would be unacceptable to both user groups.

This alternative complies similarly to the previous two alternatives with MA 6.2 direction for nonmotorized use. There would be little monetary cost in the implementation of this alternative.

Summary

The five alternatives were ranked according to how well they meet the evaluation criteria; 3= fully meets, 2= partially meets, 1= poorly meets, 0= doesn't meet.

	Alternatives			
Evaluation Criteria	1 Block at Forest Boundary	2 Block Near Lakes	3 Allow Continued Access	4 Continue Current Mgmt.
Acceptability	1	2	3	1
Protection	3	3	2	0
Economy	1	1	2	3
Total	5	6	7	4

Based upon this analysis, the evaluation criteria are best met by Alternative 3, which would allow continued vehicle access to the lakes but would restrict use so as to minimize resource damage.

CHAPTER V

SUMMARY AND CONCLUSIONS

Implementation of the Nicolet National Forest's proposed Land and Resource Management Plan will require site-specific application of prescribed management practices in order to effect changes in existing conditions toward the desired future condition. This study has identified and analyzed two significant management concerns that arise from efforts to implement plan direction for the Little Star Lake Area on the Laona Ranger District. The first concern addressed the vegetative objective for much of the area surrounding the Ed's Lake Skiing and Hiking Trail. The second concern addressed the type and extent of vehicle access to be provided to recreation visitors to Little Star and Midget Lakes.

Summary of Procedures and Findings

Three management alternatives were evaluated for application to the 422 acres of existing mixed hardwood timber in the vicinity of the Ed's Lake Trail, around Ed's Lake, and along Forest County Highway W. The alternatives were:

1. Clearcut and regenerate aspen.
2. Manage evenaged mixed hardwoods.
3. Manage unevenaged mixed hardwoods, including 63 acres of old growth.

The alternatives were evaluated using the following evaluation criteria:

1. Visual quality objectives
2. Wildlife habitat objectives
3. Timber productivity

Visual quality was considered to be the most critical of the three criteria, followed by wildlife habitat and then timber productivity. A weighted numerical ranking was applied to the three alternatives based on the advantages presented by each in relation to the evaluation criteria. That ranking clearly illustrated the findings of the evaluation: unevenaged mixed hardwood management would best meet the most important of the evaluation criteria by meeting the visual quality objective of Retention. Aspen management would provide the greatest overall value to wildlife habitat, but would least meet the visual quality objectives. Evenaged hardwood management would provide high timber productivity, the least critical of the criteria.

Four alternative courses of action for managing public access to Little Star and Midget Lakes were evaluated:

1. Block the existing roads at the National Forest boundary and manage for walk-in use of the entire area.
2. Block the roads near the lakes and manage for walk-in use of the lakes and campsites.
3. Allow continued vehicle access to the lakes but contain use to minimize resource damage.
4. Take no action and continue current management.

These alternatives were evaluated using the following three evaluation criteria:

1. Acceptability to users
2. Land and resource protection
3. Economy of implementation

The alternatives were numerically ranked based on how well they met the evaluation criteria. The alternative that ranked the highest was the one that would allow continued vehicle access to the lakes but would contain use in order to minimize resource damage.

Conclusions and Recommendations

This study does a more site-specific analysis of the effects of proposed vegetative treatments within certain timber stands than was done in the land management planning process. It evaluates the effects of the proposed standards and guidelines for visual management upon a visually sensitive portion of the study area.

Wilkinson has stated that natural beauty in itself is a resource, and that the consideration of scenic values in natural resource analysis is just as valid as consideration of the more easily quantifiable resources (Wilkinson, 1985). The Multiple-Use Sustained-Yield Act of 1960 requires harmonious and coordinated management of the various resources, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

Based upon the findings and within the limitations of this study, it is concluded that unevenaged management of the 422 acres of mixed

hardwood timber in the vicinity of the Ed's Lake Skiing and Hiking Trail will best meet the overall management objectives for the area. The high value of the visual resource along the trail makes it necessary to trade off, or at least subordinate, other resource values, particularly wildlife habitat benefits and timber productivity. The study findings indicate, in fact, that timber productivity and undiscounted revenues will be greater under the selected alternative than under aspen management. Management of the existing aspen, conifer, and evenaged mixed hardwood stands in the vicinity of the mixed hardwood stands to be managed unevenaged will result in a fairly high degree of vegetative diversity for wildlife habitat benefits.

The designation of 63 acres of the existing mixed hardwood timber (115 total acres within the study area) for old growth management will help to meet management objectives within the area. The decreased frequency of harvest entries into those stands will greatly reduce visual disturbances along the trail, around Ed's Lake, and along County Highway W, as well as in other parts of the area. It will result in larger trees and a more naturally appearing forest in these visually sensitive areas. Many nongame wildlife species will benefit from the resulting conditions.

During future examinations of the unevenaged stands, it is recommended that efforts be made to locate inclusions or small stands of timber that could be managed on an evenaged basis. These stands would provide for greater tree species and size class diversity within the larger unevenaged stands.

Examination of the concern for vehicle access has been helpful in deciding upon a course of action for management of Little Star and Midget Lakes. We on the Laona District have observed the effects of increased and expanded use of the campsites and boat launch sites, and have long felt that closure of the total area to motor vehicles would solve most of the use problems.

Use of the area can be likened to the basic concept put forth in the Tragedy of the Commons (Yandle, 1985). We have seen people drawn to a small area that offers attractive recreation opportunities, and have observed the effects of their using the area, at times, beyond its capacity. While each additional camping or fishing party has gained a recreation experience, the quality of each experience provided by the area has been diminished due to the area's being divided among a greater number of experiences. In the process the quality of the resource has declined due to loss of vegetation and localized soil erosion, further decreasing the ability of the area to provide quality recreation opportunities.

Despite these problems, we have concluded that the restriction of motor vehicles from access to the lakes would be a difficult and costly undertaking, for the reasons described in Chapter IV. Likewise, a closure closer to the lakes could not be practically implemented or enforced. Continuation of our present course of management would result in unacceptable damage and degradation, which would constitute the "tragedy" of this commons. It is therefore concluded that the most favorable course of action will be to allow continued vehicle access to the lakes, but to contain use in order to minimize resource damage and prevent expansion of vehicle use.

What is proposed under the selected alternative has been called hardening of the sites. The services of the Forest's landscape architect will be required to work with district personnel to plan and design the barriers and devices needed to contain use and protect the existing resources. It is anticipated that these will be installed using natural or naturally appearing materials, and will not be costly.

Of equal importance is the need to inform users of the reasons for placing restrictions upon the sites. This will not be easily accomplished, as most use occurs during heavy use periods, such as weekends and holidays, when crews are busy in campgrounds and other dispersed recreation sites. However, a schedule will be established to have an employee visit the lakes periodically and interact with users concerning management and use of the area. Law enforcement action will be taken when instances of vehicle use violations are observed. Press releases in the local weekly newspaper will be used to inform local users of management actions and concerns.

The sites will be monitored periodically to determine the effectiveness of the vehicle restrictions and the resultant changes in vegetative and soil conditions. Improvements or modifications, as well as vegetative restoration, will be accomplished as needed. If monitoring indicates that the selected course of action is not effective, consideration should be given to implementing vehicle restrictions as described under either alternative 1 or 2. In anticipation of this possibility, a reforestation plan will be devised for the large opening traversed by the access road to the lakes. The objective will be to close in the area vegetatively so as to improve future opportunities for controlling or prohibiting vehicle access.

Final Recommendation

It is recommended that the ROS classification for the Little Star Lake Area be changed from Semi-Primitive Nonmotorized to Roaded Natural. The area is best defined by the setting and experience characterizations of the ROS Users Guide as Roaded Natural. It likewise is most consistent with the ROS class delineation criteria for Roaded Natural. Much of the area is within a half mile of better than primitive roads. Its size is less than 2500 acres. The timber harvest practices, snowmobile trail management, and road design and management standards all are most consistent with criteria for the Roaded Natural class.

It is possible that the Semi-Primitive Nonmotorized classification describes the majority of the Management Area 6.2 lands on the Nicolet National Forest and is therefore applied to the Little Star Lake Area for expediency. However, based solely on its own characteristics, the area would most accurately be classed as Roaded Natural.

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APPENDIX

PENCE E.L.T.
(Symbol - PC)

A. Associations

This unit occurs on level outwash plains and terraces, undulating to hilly pitted outwash or end moraine, and on long narrow steep sided eskers and crevice fill. Slopes are generally short but often irregular. The unit is often in close association with the other glacial-fluvial units. Association with the organic units is often a complex of the unit in relatively small parcels. Areas of this unit often occur in association with Iron River and Carbondale units where glacial-fluvial drainways transect the moraine.

This unit occupies 14% of the forest.

B. Soils

Soils were developed in a thin loamy loess cap 10 to 20 inches thick over sand or sand and gravel glacial-fluvial drift. These soils are acid, droughty, and well drained over most of the unit. Included are small acreages of soils with water tables near the surface. Gravel content is often high. Areas of eskers and crevice fill are essentially gravel deposits. This ELT is composed of SRI mapping units:

Pence-Crivitz	PCA, B, C,	85%
Worcester-Poskin	WP	5%
Inclusions		10%

C. Vegetation

Habitat Type: Tsuga-Maianthemum (Hemlock-Wild Lily of the Valley)

Cover types on this unit are extremely diverse. A history of fire, often close association with other ELT units of very different character, and an ability to support many species successfully if not always well, account for much of this diversity. The ecological mix in small areas is often high but there are also many areas of single timber type.

Common tree species are aspen, oak, red maple, white birch, white pine, jack pine, red pine, sugar maple, balsam fir, and white spruce. Pine plantations are common.

D. Vegetation Diversity

Although pine and aspen predominate, this ELT has the most balanced distribution of timber types. With over half its acreage in short rotation species, it has the potential for wide distribution of age classes occurring on stands that are medium in size compared to other ELTs. The mix of tree species within stands and understory diversity is high. This ELT is considered the most diverse, high, in terms of vegetation.

Suitabilities

A. Silviculture

Most forest types of the Nicolet grow on this ELT but somewhat droughty nature makes Pence best suited for the production of high quality oak and pine sawtimber.

Thirty-eight percent or 35,000 acres are currently growing aspen. Maintaining some amount of aspen on Pence will be an important wildlife consideration since this ELT frequently occurs adjacent to conifer swamps or next to the hardwood dominated Iron River ELT. Aspen is successionally more stable on this ELT than on the Stambaugh-Padus or Iron River. Regenerate by clearcutting and removing residual stems 2 inches or larger.

Pence is well suited for growing white pine, however white pine should not be planted extensively for timber production until proven rust resistant stock is available. Northern hardwood stands occur on this ELT but this type is not well suited for production of high quality sawlogs except for red oak. Conversion from northern hardwoods to oak or oak-aspen mixtures could be considered and would have important wildlife benefits.

Aspen or upland fir types are the best opportunities, silviculturally, for conversion to red pine following clearcutting. Mechanical site preparation should be limited to roller chopping or spot scarifying and disc trenching. Root raking moves too much soil from the site. Aspen will sprout readily so herbicide or hand release will be needed to produce a free to grow plantation.

Pence is well drained and should be operable from late May to spring break-up.

B. Recreation Use

Recreation potential on this ELT is very good for all activities. The land form provides good diversity with an excellent mix of vegetative cover. The soils are well drained and thus offer good locations for campgrounds and trails.

Visual recovery on this ELT is medium. Areas of disturbance will take at least a year's growth to soften the visual impact. Heavy recreation use areas are compacted easily and do not recover quickly from trampling. The characteristic landscape is a moderately dense forest commonly occurring next to wet lands and dense hardwood stands. Any disturbances must be managed carefully in respect to visual quality.

C. Wildlife Habitat

This ELT is the most diverse in terms of wildlife species and abundance. Its timber type composition is well balanced even with the dominance of conifers. With this mix of timber types and the high within-stand mix of vegetation, this ELT offers a wide variety of habitat. Those wildlife species which are associated with short rotation and pioneer vegetation are best suited to this ELT.

Continued conversion to red pine and better quality jack pine could reduce the over-all wildlife value. These types, at least during the middle years of growth, are the least diverse types within this ELT. The concern over loss of habitat is especially true if conversions occur at the expense of balsam fir, fir-aspen, or aspen stands which have very high wildlife use.

Many tree species occur together naturally within stands in this ELT and lend themselves to similiar silvicultural systems. Generally, stands containing a mixture of tree species are far richer in wildlife habitat than single species stands. Stands designated as old growth have the potential to develop into highly diverse communities.

Because this ELT can support many tree species successfully, there is an opportunity to expand the acreage of some minor types important to wildlife such as birch, hemlock, oak, and white pine.

This ELT seems to occur often in relatively small patches and fingers which are in close contact with other ELTs. Wildlife habitat improvements will therefore most always be within or near a transition zone between timber types and ELTs. It is here in the vegetation transition zones where most wildlife use occurs.

The southern red - back vole is a characteristic species.

D. Roads

There are no major limitations for engineering activities. Substratum material are often good sources for gravel borrow, although some areas may be excessively sandy and stabilization with gravel or silt may be necessary. This soil lends itself to construction of very shallow cut and fills to almost surface travelways lying lightly on the land. This is a deep well-drained soil with slopes of 0 to 40 percent. Provided that no cut is made, ditching is generally not needed, culverts are needed only at low points, and no surface material is needed. It should be pointed out that areas of this ELT often occur in association with the Iron River ELT.

E. Gravel Sources

This unit has good potential for sand and gravel borrow. Eskers, crevasse fill, kames, kame terraces, and other land forms are common and are generally good sources.

F. Effects of Fire

High intensity fire can occur on this ELT in the conifer fuels during drought periods. Jack pine, red pine, and upland conifers could easily provide crown fire conditions. Intense fire can cause loss of organic matter which affects moisture absorption and retention within the soil. Summer fires designed to provide mineral soil conditions should be avoided.

Separated by hardwood stands for both fire or insect and disease protection, conversions to pine should consider keeping plantation blocks less than 40 acres.

G. Water Runoff

The deep porous soils of this unit have a large detention storage capacity. Surface runoff is very low except in early spring runoff periods when frost is still present in the soil.

TIMBER TYPE PRODUCTIVITY BY ELT

Nicolet N.F. 3-81

(Based on 12-80 Sample of TMIS Data & Stems Growth Projections)

Average Productivity in C.F./Ac./Yr. @ Culmination of Mean Annual Increment

F.S. TIMBER TYPE GROUP	IRON RIVER AVERAGE PROD.	STAM. PADUS AVERAGE PROD.	SARONA KEWEENAW AVERAGE PROD.	PENCE AVERAGE PROD.	VILAS AVERAGE PROD.	CARBONDALE AVERAGE PROD.	GREENWOOD AVERAGE PROD.	AVERAGE ALL ELTS AVERAGE PROD.
Jack Pine				37.0	38.0			37.8
Red Pine	(86.2)	87.5	81.2	78.4	78.4			83.2
White Pine	82.1	82.6	(83.5)	(73.4)	(73.4)			81.0
Hemlock	(65.8)	67.5		59.0	(59.0)			66.1
Other Upland Conifer	40.0	40.6	(40.2)	37.3	(37.5)			41.1
Lowland Conifer	(31.8)	(31.8)		(31.8)		31.8	2/ 20.7	28.2
Oaks	(70.0)	66.2	66.2	(60.0)	(60.0)			65.6
R. Maple, B. Ash, Elm	50.4	(49.0)	46.2		(37.0)			47.7
Mixed Hardwoods	57.0	57.0		(47.6)				54.0
Sugar Maple & Associates	54.3	49.3	(49.3)	46.6	(37.0)			49.3
Aspen	44.0	43.7	45.2	43.1	3/ 43.1			43.8
Paper Birch		48.9		49.9	43.8			47.4

1/ Values in parenthesis have wide statistical variences (i.e., 95% confidence intervals for site index cover more than a 10 foot range).

2/ The table productivity value for a site index of 21.9 is 18 C.F./Ac./Yr., which would place Greenwood in an unproductive category (less than 20 C.F./Ac./Yr.).

3/ Due to a lack of sample distribution, site index, and productivity, values for aspen on Vilas may be lower than indicated.

Note: This table produced by the Nicolet I.D. team from growth projection samples.

Management Area 6.2

Existing and Desired Vegetative Compositions

Vegetative Composition Percentages by District

Vegetative Type	E.River		Florence		Laona		Lakewood		All	
	E	D	E	D	E	D	E	D	E	D
Jack Pine	-	-	*	*	1	*	5	-	1	*
Balsam Fir	6	3	3	2	2	2	*	-	3	2
Red Pine	2	4	4	4	4	4	9	9	4	5
White Pine	13	9	-	*	*	*	2	2	1	1
White Spruce	1	*	10	4	1	*	2	*	6	2
Mx.Lowland Conifer	3	3	12	12	9	9	9	9	10	10
Cedar	-	-	1	1	1	1	-	-	1	1
Mx.Hardwood Uneven-age	-	44	-	44	-	8	-	2	-	29
Mx.Hardwood Even-age	54	-	39	-	53	45	15	2	41	14
Oak	-	2	*	3	-	2	-	16	*	4
White Birch	-	1	*	*	1	1	16	19	2	3
Hemlock	2	2	1	1	1	1	-	1	1	1
Aspen	13	24	24	16	21	19	28	25	23	18
Upland Opening	2	3	3	5	3	4	2	3	3	4
Untyped Wetlds	1	-	*	-	-	-	8	-	1	-
Sedge Meadow	2	3	*	1	*	*	1	2	*	1
Marsh	-	-	1	2	*	1	1	3	1	1
Shrub Swamp	1	2	2	3	3	3	*	1	2	3
Bog	-	-	*	*	*	*	2	6	*	1
Total	100		100		100		100		100	

E = Existing Vegetation Composition
D = Desired Vegetation Composition

(Management Areas 6.3 and 9 are included)
* Less than 1%

Visual Resource Management

The visual resource will be routinely considered in all forest projects. Projects will borrow from line form, color and texture of the characteristic landscape. Management activities will at least meet the visual quality objective of modification.

Management of the visual resource will be accomplished thru the application of various design techniques plus enhancements and rehabilitation projects. The objective of visual resource management is to ensure that management activities meeting other resource needs either maintain or upgrade the visual resource.

Visual Quality Objectives

Visual quality objectives are depicted on maps located at the Forest Supervisor's Office and Ranger District offices. Examples of VQO areas can be found in Appendix E. Guidance on achieving these objectives is given throughout the standards & guidelines section.

Management of the visual resource will be directed towards the attainment of the following visual quality objectives (VQO):

RETENTION - This VQO provides for management activities which are not visually evident. Activities may only repeat form, line, color and texture which are found frequently in the characteristic landscape. Reductions in contrast to form, line, color or texture should be accomplished during management activities or immediately after. Vegetation composition objectives will be the same as they are in each of the management areas, however, big trees will be featured in the long lived species. Temporary openings may be 40 acres but are designed to appear smaller. Permanent openings are placed to create a view of scenic land features plus add diversity in foreground areas. Roads are less evident and intersections are kept to a minimum.

There is little contrast in colors as road debris is removed for the first 100 feet in the foreground and the road ditches, shoulders, and banks are seeded when construction is completed. Temporary roads are obliterated within two years after their use. Wherever possible road closure devices, other than gates, will be used. These devices should be natural appearing and subordinate to the surrounding landscape. Evidence of management activities is low. Enhancement and rehabilitation projects are given highest priority for implementation in retention foreground.

PARTIAL RETENTION - Management activities remain visually subordinate to the characteristic landscape. Reductions in contrast to line, form, color, or texture should be accomplished within the first year or as soon after project completion as possible. Composition objectives will be the same as they are in each of the management areas, however, big trees will be featured in the long lived species. Temporary openings may be 40 acres but are designed to appear smaller. Evidence of management activities are moderate but lessened within 1 year. When roads are to be closed consideration should be given so that the road closure device is subordinate to the surrounding landscape. Partial retention areas are second in priority for implementation of enhancement and rehabilitation projects.

MODIFICATION - Management activities may dominate the original characteristic landscape. These activities, however must borrow from naturally established form, line, color, and texture so as to appear natural or compatible to the natural surroundings. Few visual enhancement or rehabilitation projects will be planned in modification foreground areas.

Reserve Trees

Selected reserve trees will be retained in areas that are cut. These reserve trees should be a combination of single trees, groupings of trees and reserve islands. Single trees reserved should generally be within 200 feet of the cutting unit perimeter. See Nicolet Manual Supplement for selection criteria.

Provide snags to meet requirements of wildlife species as discussed in 2600 (Wildlife Habitat Management).

Temporary Openings

Temporary openings will vary in size and shape to blend with the surrounding forest environment. The maximum size of temporary openings will be 40 acres unless:

1. There has been 60 days public notice given on an individual proposal and the exception has been approved by the Regional Forester, or

2. There has been a natural catastrophic condition such as fire, windstorm, or an insect or disease attack and the proposed action plan has been approved by the Regional Forester.

These temporary openings will generally be separated by a stand of at least ten acres and a distance of 500 feet and will be considered as temporary openings until the new trees have reached a height that is equal to or greater than 20 percent of the height of the surrounding vegetation.

In order to meet visual quality objectives, the open area that can be seen at any one point from a travelway, stream, use area, or water body should not exceed the following guidelines:

Travelway, use Area or Stream

Speed MPH	AREA *		
	Reten	Part. Reten.	Mod.
16+	10 Ac	20 Ac	40 Ac
0-15	5 Ac *	10 Ac	30 Ac

* The actual size may be 40 acres but the area seen at any one point is shown above.

Water Body or Class 1&2 Trout Streams

In general there will not be any temporary openings resulting from timber management activities immediately adjacent to lakes and streams with the following exception. Lakeshore and streamside vegetation manipulation, when necessary to maintain or enhance the visual and wildlife resource will commonly consist of underplanting and thinning with the long term objective of long lived big trees. When it is necessary to create a temporary opening next to a lake or stream the size of this opening seen from any position on the shoreline should not exceed 5 acres (note that the actual opening size may be 40 acres but only 5 acres can be seen.

MANAGEMENT AREA 6.2

Management of these areas will emphasize:

a). A diverse forest with a variety of tree species and ages

b). Roads closed to vehicle access

c). Wildlife, fisheries and recreation emphasis

c). A primarily semiprimitive nonmotorized recreation experience

These areas will consist of a variety of vegetative conditions created by a wide range of management. There are uneven-age hardwood stands, small stands of even-aged aspen, and hardwoods and conifers scattered thorughout the areas.

Recreation activities occurring within the areas can best be characterized as nonmotorized. User interaction is low but evidence of others users is fairly common. Users in this area can generally experience a moderate degree of isolation from the sights and sounds of other humans.

Included in this condition are areas where intensive wildlife and fisheries habitat management is applied. These practices include construction and maintenance of upland openings and hunter walking trials, wetlands management, and trout stream improvement.

Roads in these areas are shaded by the crowns of surrounding trees. The roads are narrow, winding and blend well into the surrounding contours. The density for roads generally does not exceed 2 miles per square mile. In some areas the road density may be higher for wildlife and recreation purposes. Only the existing open roads will remain open, all others will be closed. Roads not needed for management are obliterated unless they are maintained for hunter walking, hiking, or skiing use.

To achieve the desired condition, the areas will be 1,000 contiguous acres or larger. Smaller areas may be included if they are significantly unique.

ACRES IN MANAGEMENT AREA 6.2

	E. River R.D.	Florence R.D.	Laona R.D.	Lkwood R.D.	Total Forest
National Forest Acres:	4,601	15,053	9,159	2,290	31,103
Mgmt Area 6.3 Land*:	1,165	1,824	905	0	3,894
Min Intensity Land*:	1,253	4,134	1,512	332	7,231
Area Suitable for Timber Production:	2,183	9,095	6,742	1,958	19,978

*Inclusions within Management Area 6.2

Included in Management Area 6.2 are 12,780 total acres of land bordering the Pine, Popple, Peshtigo and Brule rivers (including MA 6.3 and minimum intensity lands). Management of these areas will be in accordance with this management area prescription, and the existing roads that cross these rivers with a bridge will be left open.

2300 Recreation Management

Recreation Opportunities	Feature primarily Semiprimitive nonmotorized R.O.S. Class
Visual Quality	The visual resource will be routinely considered in all forest projects. Projects will borrow from line, form, color and texture of the characteristic landscape. Management activities will at least meet the visual quality objective of modification. Refer to the forest-wide standards and guidelines.
Structures	Parking accomodations and signing will be designed to accommodate the area's capacity and will be located on the perimeter of the area.

2400 Timber Management

In even-age timber, stand size will generally be 20 acres or less. Irregular cutting lines harmonizing with the surrounding contours will ensure that even-age stands blend with the surounding characteristic landscape. Timing of timber management activities will be conducted to minimize conflict with other users of the area. Reserve trees for visual enhancement will routinely be retained in even-aged stands. Within stands, a mix of species with similar silvicultural requirements is preferred to stands containing single species of trees.

Silvicultural Systems	Even-aged management will be the featured silvicultural system. Other systems will be used as needed to meet resource objectives. Clearcutting, where prescribed, has been determined to be the optimum method (see Appendix A). Silvicultural standards will incorporate genetic improvement principles and practices.

2600 Wildlife Habitat	This condition provides habitats for a variety of game and nongame species.
7700 Transportation System	
Road Standards	Roads are to be constructed to the low standard road practice.
Road Closure	Roads will be obliterated unless needed for management purposes.

DEC - 5 1985

DATE:
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ORA
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YACC
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Sale Admin.
Prep. Tech
Forester 1
Forester 2

United States Department of Agriculture | Forest Service | Nicolet National Forest | Federal Building 68 S. Stevens St. Rhinelander, WI 54501

Reply To: 2350 General Forest Environment Areas Date: December 2, 1985

Subject: Star & Midget Lakes Area

To: District Ranger, Laona

This memo will document our 11/8/85 on-site review of the existing vehicle access points in the Midget and Star Lake Areas.

In your entire project area it appears that management of the vehicle access areas into Star Lake/Midget Lake will be the most controversial. It appears that use (assumed to be by locals) has slowly increased during the past 20 years. Assuming these trends will remain constant you can expect a slow buildup in use in future years.

The buildup in use has produced, in my opinion, some negative user patterns that are beginning to impair the visual as well as physical values of the area, examples being the four-wheel access along Star Lake and the vehicle access--perhaps 3 wheeler--along the shoreline of Midget Lake are especially disturbing.

Currently there appears to be no control over where roads and/or occupancy spots are located. The whim of the user prevails. This may be okay when use is sporatic and light. However, when use intensifies the impact on the site intensifies. This in time will reduce the area's visual and physical appeal which originally was the reason people began using the area. As this happens user clientele will change and those drawn into the area because of its remoteness and scenic beauty will be replaced by others who perhaps are more interested in other values. There's a good chance this displacement process has already begun as we noted a fair amount of trash, tree cutting, beer cans, etc. which probably have been caused by those who are not quite as careful and cognizant of the area's visual and physical values as their predecessors.

The problem you face then is to identify the level of visual and resource damage occurring and somehow measure it against management direction and future management options. It may be that the current situation projected into the future is acceptable and therefore no, or perhaps limited, control measures are needed. On the other hand an evaluation weighing the pros and cons of the present situation might indicate that restriction measures are, in fact, needed to prevent further degradation of the area's visual and physical resource values.

As I view the situation there appears to be a number of options as they relate to vehicle access into Star and Midget Lakes. They are:

1. No action

2. Restrict vehicle access 200-300 feet from both Star and Midget Lakes.

3. Restrict vehicle access near the forest boundary - 1/4 mile from Midget and Star Lakes.

From my perspective an analysis of these options reveals the following:

1. No Action - This alternative does not relate well with Forest Service management direction which states that we are charged with managing the forest resources for the greatest good for future generations, etc. As evidenced by our on-site review, degradation of the site appears to be intensifying at a fairly rapid rate. If we project on-site degradation into the future, some very severe erosion and loss in visual resource values could occur. Assuming one of our primary objectives is to protect and enhance resource and visual values, this alternative should in all likelihood be discarded.

2. Restrict Access 200-300 Feet From The Lakes - The problem with this alternative is enforcement. The location of a closure device becomes extremely important. The vegetation in this area is so open that driving around a closure device is no challenge. Unless you're prepared to enforce this alternative I recommend against it. What could be done, however, is to plant the openings with conifers and then in 15-20 years install a closure device. This, then, would create a real challenge and conceivably would discourage vehicle access to the lakeshore. I question, however, if we should wait 15-20 years.

3. Restrict Access Near Forest Service Boundary - The easiest location to block access, if access is to be blocked, is in the railroad cut. The cut could be filled and a small parking area with appropriate signing developed to accommodate and inform users as to why this act was necessary to close vehicle access into this area. This action may, however, cause some problems. The severity of the problems could range from incendiary fires to chopping a vehicle access-way thru the aspen stand to by-pass the closure.

A potential problem and opportunity analysis should proceed any closure installation. It may well be that a closure device should not be installed for several years.

The problem analysis would address:

1. A study of those currently using the area:

   A. Are they locals?
   B. How many use the area?
   C. When is it used, why?

2. Inform the public of our future management plans for the area by:

   A. Articles in Forest Republican
   B. Meeting with locals
   C. Signs on site explaining Forest Service management policies
   D. More visible Forest Service personnel on site

3. Set a date to implement closure device.

I recommend you delay timber harvesting plans until the vehicle access question into Star Lake is resolved. If it is decided to restrict vehicle access at the railroad grade the aspen should not be cut. The aspen forms an effective barrier and will in all likelihood prevent users from driving around a closure device at the grade.

Reconsider harvest plans for the aspen stand between Midget and Star Lakes. If this stand is harvested it may create a visually disruptive opening. An alternative to clearcutting this stand would be to scatterplant it with spruce and white pine.

/s/ Douglas E. Jacobson

DOUGLAS E. JACOBSON
Landscape Architect

DEC - 9 1985

DATE:

United States Department of Agriculture | Forest Service | Nicolet National Forest | Federal Building 68 S. Stevens St. Rhinelander, WI 54501

Reply To: 2350 General Forest Environment Areas Date: December 5, 1985

Subject: Star and Midget Lakes Area

To: District Ranger, Laona

Richard
Clerk Typist
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Rec Tech
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III TMA
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Sale Admin.
Prep. Tech
Forester 1
Forester 2

This follows the field review of 11-8-85 by Staege, Berkes, Jacobson and Neumann.

Jacobson has given a good account of the situation in the area with the persistent, low level, unconfined recreational use. My comments pertain to water-side uses that are causing degradation to the watershed.

The laissez faire management posture taken by the district toward recreational use of the lakes was probably the right one over the years. The problem appears to be that increasingly adventurous cross country accessing by vehicle is threatening not only the aesthetics but the lakeshore watershed values as well. Concentrated boat access to Midget Lake is now proving to be harmful too.

I strongly support measures discussed during our review that will provide protection for the lakes and lakeshores. Vehicle access to the lakes and the near lakes area should be stopped. It would be well to provide for the future with a variety of shrub and tree plantings to screen and to enhance the beauty of the lake settings.

EDWIN W. NEUMANN
Soil Scientist

cc: Neumann

United States Department of Agriculture

Forest Service

Nicolet National Forest

Laona R.D.

ED'S LAKE

SKIING & HIKING

National Recreation Trail

The Ed's Lake Trail provides challenging cross-country skiing for first-year skiers as well as for those more experienced. In the snow-free season, the trail offers scenic hiking in a varied landscape and diverse timber.

The trail is located on the north side of Forest County Highway W, about midway between Crandon and Wabeno, near Roberts Lake. Trailhead facilities include a parking area, a trailhead map, an information display, and a restroom.

Trail loops are generally groomed for skiing, but conditions will vary based on weather and time of the week. Trail sections are well marked; location maps are posted at trail intersections.

THE TRAIL LOOPS

Maple Loop (2.3 Mi/3.7 KM). This is the easiest loop of the trail, but basic skiing skills are required. The first 1/4 of the trail is primarily uphill. However, beginning skiers should not be discouraged, as the rest of the trail rewards the persistent with short downhill runs on moderate slopes. More-advanced skiers also find this loop enjoyable. The return portion of this loop is joined by the intermediate-level Birch Loop, so slower skiers should allow faster skiers to pass. Beginning skiers should watch for the last leg that returns them to the parking lot on a gentle grade, avoiding the steeper last leg of the Birch Loop.

Birch Loop. Scenic and challenging for the intermediate skier. The scenic overlook from a high paper birch ridge is followed by two challenging slopes. The halfway point is a view of the trail's namesake, Ed's Lake. Two alternative return routes add variety to this loop: Birch Loop is 2.7 Mi/4.3 KM by way of the Cutoff Route, and 3.5 Mi/5.6 KM via the Valley Route. Both alternatives share the return leg of the easier Maple Loop.

Note: Another acceptable alternative trip can be made by leaving the top of the Maple Loop, skiing up the grade to the beginning of the Valley Route, which is then followed back to the Maple Loop. Remember, though, the Valley Route is an intermediate level trail, more difficult than the Maple Loop.

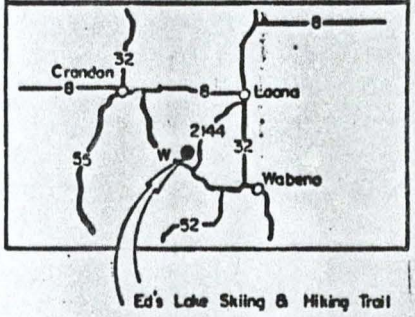
SAFE SKIING

Caution should be used when skiing these trails. Although all trails are groomed, some spots may be icy or uneven or may have twigs or cones on the trail surface. Under icy conditions, skiing is not safe because it becomes difficult to maintain control within the designed limits of the trail.

Be aware of changing weather conditions and personal fatigue which can increase the hazards of the out-of-doors. Use the "buddy system" to make your outing safer and more enjoyable. Ski only to your ability.

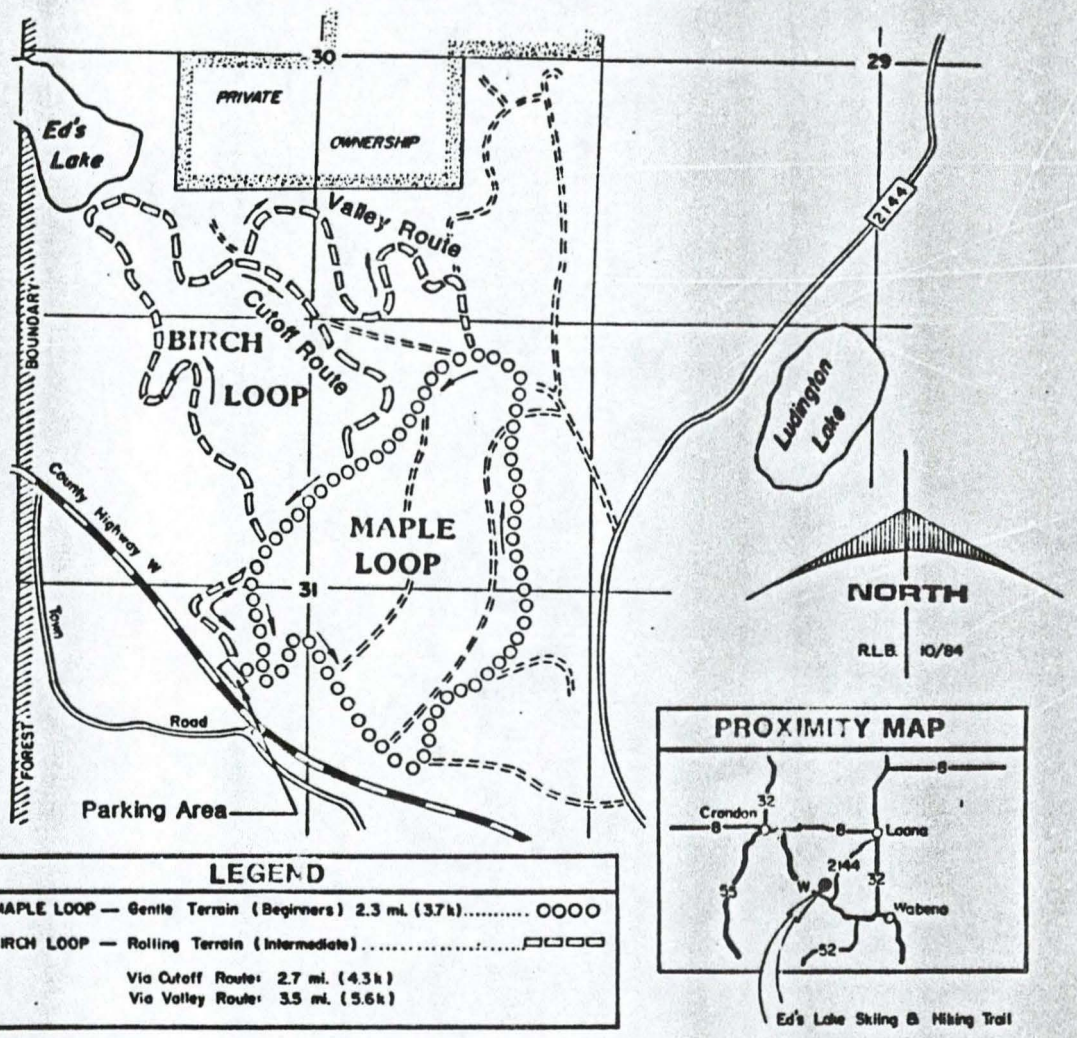
Observe courtesy on the trail:
- -Repair the track after falls.
- -Avoid walking on the ski tracks, and keep dogs off the trail.
- -Allow faster skiers to pass.
- -Ski in the direction indicated on the maps; skiing in the wrong direction can jeopardize your safety and that of others.
- -Keep far apart when descending hills.

PROXIMITY MAP



Ed's Lake Skiing & Hiking Trail

ED'S LAKE
SKIING & HIKING TRAIL
NATIONAL RECREATION TRAIL
NICOLET NATIONAL FOREST



LEGEND

MAPLE LOOP — Gentle Terrain (Beginners) 2.3 mi. (3.7 k)..... OOOO

BIRCH LOOP — Rolling Terrain (Intermediate).....

Via Cutoff Route: 2.7 mi. (4.3 k)
Via Valley Route: 3.5 mi. (5.6 k)

PROXIMITY MAP

Ed's Lake Skiing & Hiking Trail

SCALE

0 1/4 1/2 3/4 1 Mile

0 1/4 km. 1/2 km. 1 km. 1-1/2 Kilometers